Section 5-2 Linear Combination Property

$$b\cos x + c\sin x = A\cos(x - D)$$

where

$$A = \sqrt{b^2 + c^2}$$

$$D = \arctan\frac{c}{b}$$

Write the linear combination of cosine and sine as a single cosine with a phase displacement.

1. $y = -8\cos\theta + 3\sin\theta$ *need to make a sketch to see the Quadrant (-8, 3)

2. $y = 4\cos\theta + 3\sin\theta$

3. $y = -15\cos\theta + 8sin\theta$

4. $y = \cos\theta - \sin\theta$

5. $y = -5\cos x - 12\sin x$ *radian mode